ACKNOWLEDGEMENTS

We are grateful to Dr. Dan Nicolson, Curator, U. S. National Herbarium, Washington, D. C. and to Dr. Thomas Croat and Dr. Walter Lewis of the Herbarium, Missouri Botanical Garden for kindly placing the herbarium materials at our disposal We thank the authorities of the Botanical Survey of India for giving us necessary facilities for our work in the Industrial Section, B. S. I.

B. C. KUNDU AND SUHITA GUHA
Botanical Survey of India, Calcutta

REFERENCE

DIELS. L. Menispermaceae in *Das Pflanzenreich* Heft, 46. 1910.

LOXOGRAMME REMOTE-FRONDIGERA (HAYATA) C. CHR.—A NEW RECORD FOR INDIA AND CHINA

Earlier reports show that the genus *Loxogramme* (Bl.) Presl of the family Loxogrammaceae (Ching) Pichi-Sermolli is represented by five species in the Indian flora (Beddome, 1892; Christensen, 1931; Panigrahi, 1960; Mehra and Bir, 1964; Tagawa, 1966, 1971; Ohashi, 1975). They are *Loxogramme involuta* (Don) Presl, *L. lanceolata* Presl, *L. chinensis* Ching, *L. dulcoluxii* Christ and *L. grammitoides* (Bak.) C. Chr. One more species *L. remote-frondigera* (Hayata) C. Chr. based on the specimens collected from Maneybhanjang (2125 m alt.) in Darjeeling district of West Bengal and Hupeh in China is reported here as a new record for India and China. The specimens match with the specimen received on loan from Tokyo University, Japan for comparison and also with the original description and photograph provided by Hayata (1915). *Loxogramme remote-frondigera* (Hayata) C. Chr. resembles *L. dulcoluxii* Christ but can be distinguished by its purplish-black shining stipes and linear-lanceolate lamina which is less than 15 mm broad and possesses a long acuminate apex (acumen 4-6 cm long); *L. dulcoluxii* Christ has non shiny stipes which are never purplish black and oblanceolate lamina which is 20-35 mm broad and possesses an acute to rarely short acuminate apex (acumen 1-2 cm long).

Loxogramme remote-frondigera (Hayata) C. Chr., Index Fil. Suppl. II, 22, 1917; Tagawa; Acta Phytotaxa, Geobot. 13: 124. 1943.

Polypodium remote-frondigerum Hayata, Icon. Pl. Formos. 5: 323, f. 135 A, B. 1915.

Loxogramme linearis Copel., Phil. Journ. Sci. 11: 45, t. 2. f. 8, 1916.

Plants upto 45 cm long, pendent epiphytic growing on moss covered tree trunks. Rhizome long creeping, clothed with clathrate, fuscous-brown, ovate-oblong, basally attached scales which are 2-3 × 0.5-1 mm and acute to acuminate at apex. Fronds scattered to more or less crowded, linear-lanceolate: stipe firm, 1.5-7 cm long, purplish black, shining, more or less compressed; lamina coriaceous, linear-lanceolate, broadest towards the middle, 30-45 cm long, 10-12 mm, rarely upto 15 mm broad, attenuated at both ends, long acuminate at apex, (acumen 4-6 cm long), crispate-undulate on the margins and with the midrib distinct, thick and flat on the lower surface and conspicuously raised on the upper surface. Sori linear, 2.0-2.3 cm long, oblique to the midrib, with the anterior end of each overlapping the posterior end of the one next above and often confluent at this region when mature, extend-

---

Date of receipt: 20.4.77. Date of acceptance: 11.11.77

ing from the midrib to very close to the margins of the lamina. Spores monolete, 58-90 μm in diameter verrucate (Figs. 1-3).

Specimens examined: INDIA: West Bengal: Darjeeling: Maneybhanjang, *Dixit* 52881, 52881A, 52881B; *R. K. Ghosh* 991 (CAL); Senchal Reserve Forest, *Dixit* 50259 (CAL). CHINA: Hupeh, *Henry* 5452 (CAL). FORMOSA: Details written in Japanese, collected on 14.3.1940, det. *K. Iwatsuki* (TY).

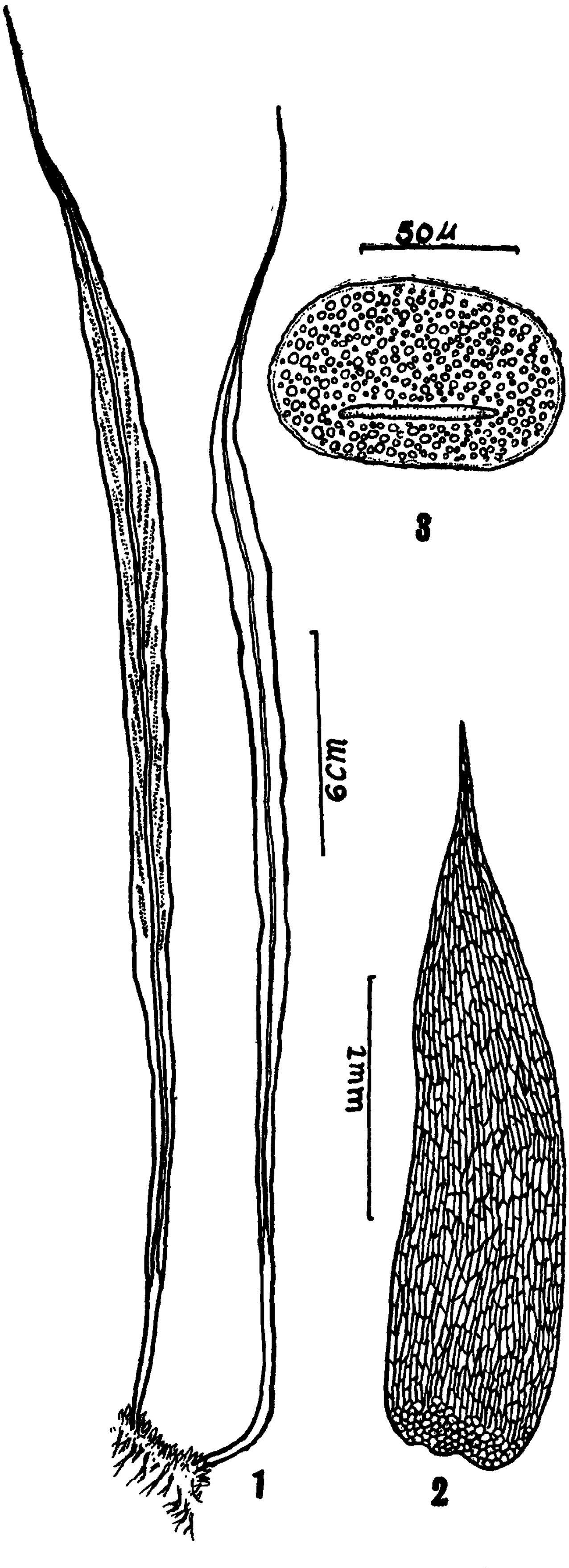
Earlier records: Formosa.

ACKNOWLEDGEMENTS

Our grateful thanks are due to the Director, Botanical Survey of India, Howrah for encouragement. We are thankful ful to Dr. R. S. Rao, former Joint Director, for kindly arranging the loan of herbarium specimens through Hiroshi Hara and also to the Curator, Herbarium of the Tokyo University, Japan for sending the herbarium specimens of *Loxogramme* for our study. Thanks are also due to Dr. N. C. Nair, Deputy Director, for going through the manuscript.

R. D. DIXIT, DIPALI HAZRA AND B. D. KAR

Botanical Survey of India, Howrah



Loxogramme remotifrondigera (Hayata) C. Chr. Figs. 1-3: 1. Habit. 2. Rhizome scale. 3. Proximal part of the spore.

REFERENCES

BEDDOME, R. H. A Handbook to the Ferns of British India, Ceylon and Malay Peninsula (with supplement). Thacker Spink & Co., Calcutta, 1892.

CHRISTENSEN, C. Asiatic Pteridophyta collected by Joseph F. Rock. *Contrib. U. S. Natnl. Herb.* 6 (6) : 265-335. 1931.

HAYATA, B. Polypodiaceae in *Icon. Pl. Formos.* 5 : 323-324, Fig. 135 A, B, 1915.

MEHRA, P. N. AND S. S. BIR. Pteridophytic flora of Darjeeling and Sikkim Himalayas. *Res. Bull.* (N.S.) *Punjab Univ.* 15 (1 & 2) : 69-181. 1964.

OHASHI, H. Pteridophyta in H. Hara's Flora of Eastern Himalayas, 3rd. report. *Bull. Univ. Mus. Univ. Tokyo* no. 8 : 166-205. 1975.

PANIGRAHI, G. Pteridophytes of Eastern India : Enumeration of the species collected and their nomenclature. *Bull. bot. Surv. India* 2 : 303-314. 1960.

TAGAWA, M. Pteridophyta in H. Hara's, Flora of Eastern Himalayas, *Univ. Tokyo*. 494-495. 1966.

——. Pteridophyta in H. Hara's; Flora of Eastern Himalayas, 2nd report. *Bull. Univ. Mus. Univ. Tokyo* no. 2. 218. 1971.